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Medical Times

The Journal of the American Medical Profession



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Medical Book News

Editorials

Contemporary Progress

Vol. 72

No. 9

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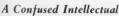
EDITORIALS

"The Power to Tax Is the Power to Destroy"

THE elder Pitt said that "By the method of indirect taxation, you can tax the last rag off a man's back, the last mouthful of food from his mouth, and he won't know what is injuring him."

Add to this the *initial* annual cost of \$3,000,000,000 for socialized medicine pro-

posed by the Wagner-Murray bill and you will have the citizenry in a pocket like the Germans in Normandy. Then the totals of both direct and indirect taxation will be definitely asphyxiative.



L EO CHERNE, executive secretary of the Research Institute of America, in his book The Rest of Your Life (Doubleday, Doran and Company, 1944) argues naively for socialized medicine. For example, on page 242 he says that "the economic difficulties involved in making the benefits available to you will not be as great as those in housing, refrigeration. and air conditioning. Income and cost, of course, are hurdles, but it is not too unusual for doctors to work without fee or for small compensation."

The quality of this author's knowledge of medical matters finds further illustration on page 244, where he speaks of "hundreds of thousands of doctors who have entered the Army."

Human Guinea Pigs

THE results of animal experimentation are not always applicable to human beings; what is true for the rat may not be true for men. Therefore the recent utilization of conscientious objectors in three concentration camps, who have been



volunteering in considerable numbers, will solve many problems. Already much has been learned in this way about such things as seawater effects an dways of meeting them, virus infections, etc.

So far, we haven't heard of any protests from the antivivisectionists. One may be pretty sure that there won't be any, for only human being are involved in this

case.

Some Appalling Phenomena

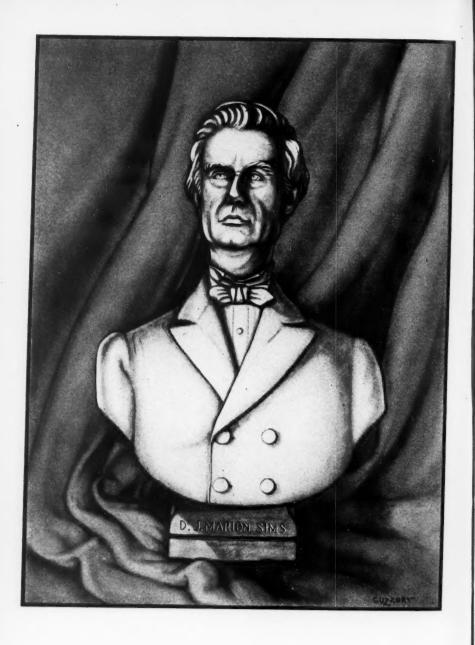
According to recent expert testimony before a Senate subcommittee the health of the American citizenry is in an appalling state; also appalling is the state of the income of those elements which once supported our voluntary hospitals. On these bases appeal is made for governmental assumption of responsibility for hospitals in all States and State districts, with health centers and clinics in the more remote communities. To start such a system \$2,000,000,000 per annum would be required.

But at the same time that this proposal is made premedical students are denied deferments and the foundation laid for an appalling dearth of doctors just about when the proposed system would presumably go into effect.

So the proposal itself falls into the appalling class, quite in line with so many other creations of today's socialicians.

Polygamy After the War?

A good many years ago Bernard Shaw advocated polygamy in England in order to meet the problem of an excess of women. He reasoned that a woman would prefer—or ought to prefer—a tenth of a



One Master of Medicine Sculptures Another

first-rate man to ten-tenths of a tenth-rate man. Now the subject is up again because of the enormous excess of women that the post-war period will witness. Dr. J. C. Joad, famous British scholar, is advocating polygamy vigorously.

The subject gains point for us when we reflect upon our own future set-up. The experts are already beginning to talk of the "plight" of American women due to the cost of the war in terms of splendid heredity.

We shall abjure polygamy, of course. But will this abjuration insure moral social conditions? Will it insure the best progency? Eugenists and geneticists, attention!



Maternity Care Program of the United States Department of Labor

A HALF-MILLION service men's wives and babies, it is anticipated, will be cared for in the next 12 months under the emergency maternity and infant care program for which Congress has appropriated \$42,800,000.

More than 40,000 cases are now being authorized monthly, and in May, the last month for which the total is available, a record was reached with more than 46,000 cases. Since the beginning of the program in March 1943, through May of this year, more than 355,000 mothers and babies have had this help from Uncle Sam.

For the first time, under the new appropriation, wives and infants of Army aviation cadets are eligible for the care, along with families of men in the four lowest pay grades of the Army, Navy, Marine Corps, and Coast Guard.

The money is allotted to State health agencies by the Children's Bureau, which administers the program, to provide medi-

On the facing page . . .

Art as the handmaiden of medicine may be studied to good advantage in the history of the Long Island College of Medicine. Beginning with Skene, whose marble bust of Marion Sims adorns this issue of the MEDICAL TIMES, the tradition was brilliantly continued by Dickinson, and is sustained today by Beck. gifted illustrator of his own Obstetrical Practice. We have here an identification and integration of art with an institution which is unique, for it involves a kind of apostolic succession of artists over a very long period of years, something which, to our knowledge, no other school in America has duplicated, much less approached.

MEDICAL TIMES, SEPTEMBER, 1944

cal, nursing and hospital care of the service man's wife during pregnacy, child-birth, and for six weeks after childbirth, and for the infant throughout his first year of life.

The emergency maternity and infant care program is now in operation in all the States, the District of Columbia, Hawaii, Alaska, and Puerto Rico, and care is available to the service man's wife and infant in whatever State they happen to be. No residence requirement is made, and no inquiry whatsoever is made into the financial status of the applicant.

Under the program good care is assured through the safeguard of standards established by State agencies. In many cases, extended medical and hospital care is necessary, and often specialists are called in, all without cost to the service man or his family. Similarly, no effort is spared in treating the infant either for sickness or physical handicaps.

Application blanks for this care can be obtained from the local Red Cross, or from the office of the local health department. The blanks must be filled out by the wife, and countersigned by the physician. The completed application forms should be sent to the health agency of the State in which the applicant is residing, and inquiries should also be addressed there.

The health agencies are joining with the Children's Bureau in urging women eligible for the emergency care to apply at the beginning of pregnancy so that their health and that of the child can be better safeguarded, and they are also urging these young mothers to give their babies the advantage of regular childhealth care and supervision by their physicians or at well-baby and child health clinics where they are available.

THE ROLE OF THE INTERNAL SECRETIONS IN HYPERTENSION

JAMES H. HUTTON, M.D., F.A.C.P.

Chicago, Ill.

ORTALITY statistics now place M hypertension high among the causes of death in the United States. After the age of 45 the death rate from hypertension is said to be four times that from cancer and twenty times that from either tuberculosis or diabetes.1 It is said to be either caused by or associated with at least fiftynine morbid states.2

The purpose of this paper is to call attention to some of the evidence that endocrine disturbances may serve as etiologic factors in some cases; that endocrine preparations may sometimes be profitably used in treatment; and that in others certain endocrine glands may be attacked with the idea of changing their functional level with resultant reduction in blood pressure and relief of symptoms.

IT IS difficult to discuss the endocrine aspects of hypertension without at the same time referring to diabetes mellitus. Osler noted that glycosuria was not uncommon in the advanced cases and thought it not improbable that most hypertensive patients were at least potential diabetics.

Hypertension and diabetes mellitus resemble each other in many respects-the usual age of onset, the endocrine disorders with which they are associated and the condition of the cardiovascular system. Patients with one syndrome tend to develop the other. Fishberg' says that in patients with essential hypertension the renal threshold for sugar may be very high so that even with well marked hyperglycemia none appears in the urine. We made glucose tolerance tests on 223 hypertensives. In 131 of these the blood sugar rose to more than 170 mg. per cent but glycosuria occurred in only 46. Joslin says that the longer diabetic patients are observed the more frequent is the development of hypertension and quotes Bell and Clawson to the effect that hypertension is five times as common among diabetics as non-diabetics. Many writers have noted that the incidence of hypertension is higher among diabetics than among normal persons13 and that arteriosclerosis is greater in diabetics with increasingly higher levels of blood pressure.14 In one series of 391 cases of hypertension we saw in the same period 35 patients who had both hypertension and diabetes.

THE resemblance or simultaneous ocoften been noted.6 Causes of death and pathological findings common to both have also been reported. 8b, 7, 8, 9 Jaffee10 found the adrenals grossly enlarged in 18 out of 65 cases of diabetes. Tumors of, or grossly enlarged, adrenals have been reported as the most significant finding in cases clinically diagnosed as diabetes, Graves' disease, hypertension and chronic nephritis.11, 12

It has been suggested that the hypertension of the toxemia of pregnancy is linked in some way with the functional deviation of the posterior lobe of the pituitary, and that a common feature links hypertensive cases of diabetes, the climacteric and various types of pituitary disease into one group.15

T seems likely that we endocrinologists sometimes tawe a too restricted view of endocrine disorders. We tend to study them per se and fail to recognize that other syndromes ordinarily thought to be far removed from endocrinopathies may have an endocrine component or a concurrent endocrinopathy. Treatment of the latter sometimes has a surprisingly good influence on the former when no causal relationship was established or

even suspected.

The most generally accepted view of the etiology, based on the work of Goldblatt, Page and others, is that the normal kidney contains or elaborates renin, which interacts with another factor producing a third substance angiotonin, which increases blood pressure. It has also been suggested that the normal kidney contains an inhibitor substance. The knowledge of this antipressor substance is not so definite as that regarding the pressor substance. Undoubtedly the emphasis on the renal and nervous factors tends to distract attention from the fact that hypertension is also a concomitant of various endocrine disorders.

PAGE¹⁶ expressed the opinion that the endocrines other than the pituitary and adrenals play little or no role in the production or maintenance of hypertension. This view seems justified by the evidence from animal experimentation. But from a clinical point of view there are certain indications that other glands may at times play some part in its cause. Evidence has been produced tending to show that the eosinophilic cells of the pituitary secrete a substance which influences kidney function." Mackay and Sherrill's report a direct relationship between the functional activity of the kidneys and the level of thyroid function. It has been reported10 that testosterone administered to rats was followed by enlargement of the kidneys and hypertrophy of the tubular epithelium. Such kidneys were said to be more resistant to nephrotoxic agents. The administration of desoxycorticosterone acetate is said to cause an increase in the weight of the kidneys and the size of the renal tubules.20

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HYPERTENSION has been found in association with the following endocrinopathies: gigantism, acromegaly, pituitary basophilism, hyperthyroidism, hypothyroidism, cancer of the thymus, some tumors of the adrenals, involving either the medulla or the cortex, certain ovarian tumors and some malignant tumors of the testes. Diabetes has been noted in all of the endocrine disorders associated with hypertension except hypothyroidism. One can hardly escape the conviction that from an etiologic standpoint hypertension and diabetes must have a least common denominator.

From an experimental standpoint there appears some doubt as to the part, if any, played by the thyroid in hypertension. Clinically, we recognize certain connections. A rise in the systolic pressure without a corresponding increase in the diastolic is a common finding in Graves' disease. Hyperthyroidism associated with adenoma is often associated with hypertension and cardiovascular renal disease. If the process has not gone too far, it seems to be reversible, and correction of the hyperthyroidism is followed by relief of the hypertension. Bisgard" reported that 50 per cent of his series experienced a reduction in both systolic and diastolic pressure following thyroidectomy.

On the other hand, hypothyroidism is sometimes accompanied by hypertension,

the administration of adequate doses of thyroid being accompanied by return of the blood pressure to normal levels. I followed one such case over a period of nearly twenty years. When the thyroid was withdrawn, the blood pressure rose; when its administration was resumed, the blood pressure was again restored to practically normal.

Williams and Harrison²² reported that 10 per cent of their hypertensive patients presented a syndrome suggesting basophilism and that in another 10 per cent the hypertension began with the onset of the

Acromegalics tend to develop hypertension and diabetes. Estimates of the number developing diabetes varies upward to 40 per cent.²³ Giants tend to develop hypertension. On the other hand, Simmonds' disease is characterized by low blood pressure. Clinical hypopituitarism is usually accompanied by low blood pressure and a low glucose tolerance curve.

OME have thought that the ovary in Some way tends to prevent hypertension.24 At any rate, hypertension and diabetes often have their onset at the menopause. Mazer25 reported the control of diabetes in menopausal women so long as they were given 2,000 units of estrogens every four days. Schaefer26 noted considerable reduction in blood pressure in 13 patients with menopausal hypertension following the administration of theelin. Other writers11 have reported favorable results following the administration of estrogens. Recent reports indicate that the administration of the synthetic estrogen octofollin is followed by a fall in blood pressure in menopausal women.28 Some also have reported favorable results following the use of androgens.29 My own experience in this connection has not been such as to make me enthusiastic.

Both blood pressure-raising and blood pressure-reducing substances are found in the adrenals. The posterior lobe of the pituitary normally elaborates a substance that raises blood pressure and blood sugar. Wollheim announced the extraction of a substance from the posterior lobe which reduces blood pressure. A similar substance is found in the urine of normal persons but is absent or present in very small quantities in the urine of persons with hypertension.

Addison's disease is characterized by hypotension. Rinehart et al. say that

hyperplasia of the adrenal cortex in essential hypertension is almost as definite as that of the thyroid in exophthalmic goiter.

IN THE treatment of hypertension asso-sociated with endocrinopathies the latter usually have to be considered as a primary and the hypertension as a secondary matter.

In cases associated with acromegaly or pituitary basophilism treatment should be directed at the pituitary disorder by irradiation or surgical removal of the tumor. Testosterone therapy is said to have had a beneficial effect in some cases of Cushing's syndrome. 22 Its effect on blood

pressure is not recorded.

Griffith et al.33 report that the antidiuretic substance of the posterior lobe disappeared from the urine of hypertensives for six months following irradiation of the pituitary. The blood pressure fell from 230 to 130. Three weeks after the antidiuretic substance reappeared the blood pressure rose to 200. After further irradiation it disappeared and the blood pressure fell to 128. Papilledema disappeared in two of their cases following irradiation.

Demonstrable tumors of the adrenals should be removed surgically. While irradiation has been reported as helping some cases, it should be remembered that the adrenals are more resistant to the roentgen rays than either the kidneys or the intestines, which would be exposed to the same dosage directed at the adrenal tumor. The difficulty in diagnosis and treatment here is that adenomata too small to be recognized preoperatively appear capable of causing hypertension.

Ovarian and testicular tumors should be

treated by excision.

In cases associated with hyperthyroidism the latter should receive primary consideration.

MANY obese patients, particularly women, in whom a diagnosis of pitnitary and thyroid deficiency seems justified, respond favorably to a reduced caloric intake plus the administration of thyroid and pituitary medication. Before using pituitary preparations regularly in such cases the blood pressure and the blood sugar response to these injections should be tested. Take the blood pressure before and an hour after the injection of 0.5 cc. anterior pituitary extract and on another day repeat the procedure using 5 units of posterior lobe extract. The blood sugar (it should not or at least need not be fasting) should be taken before and one hour after these injections. If there is a significant rise in blood pressure or blood sugar following these injections, they should not be used in treatment.

Illustrative Cases.

Miss C. C., aged 44, complained of obesity acquired in the past five years, lack of endurance, and marked perspiration about the head. She had had a subtotal thyroidectomy in 1928 and again in 1939. Her appendix had been removed in 1939, Menstrual periods were regular and normal in

amount.

Significant findings were: height 5 feet 7½ inches; weight 213 pounds; blood pressure 180/110; pulse 90; B.M.R. plus 13 per cent; blood urle acid 3.6 mg. per cent; cholesterol 175.5 mg. per cent; fasting blood sugar 125 mg. per cent; after 100 grams of glucose, 150, 125 and 125 mg. per cent at one-half, one-and-a-half, and two-and-a-half hour intervals. There was no glycosuria. After 0.5 cc. of anterior pituitary extract the blood pressure dropped to 165/100 and after anterior pituitary extract and posterior extract 3 units it also dropped to 165/100. She was put on a diet of Carbohydrate 80 grams, Proteid 80 grams, and Fat 40 grams and was given anterior pituitary extract 0.5 cc. and posterior pituitary extract 0.5 cc. and posterior pituitary extract 5 units twice a week. Later two

given anterior pituitary extract 0.5 ec. and posterior pituitary extract 5 units twice a week. Later two grains of thyroid per day was added, She lost an average of 5.7 pounds per month, The blood pres-sure is now 135/85 and the pulse 90.

A 63-year-old man was admitted to the hospital because of shortness of breath, orthopnea, dependent because of shortness of breath, orthopnea, dependent edema and marked somnoilence. His obesity was of the thyroid-pituitary pattern. Ten days of bed rest and cardiac medication brought no relief. Because of the elinical evidence of thyroid and pituitary deficiency and in spite of the hypertension (180/120) he was given 5 minims of obstetrical pituitrin. The systolic pressure declined in one hour form 180/120 to 180/20. (180/120) ne was given a minimum. The systolic pressure declined in one hour from 180/120 to 140/90. A few days later he was given 0.5 ec. of anterior pituitary extract and the blood pressure again dropped to 140/90. He was then given on alternate days 5 minims of pituitrin and 0.5 ec, of anterior pituitary extract. He was also given tolerance doses of thyroid. There was a steady loss of weight, reduction in blood pres-sure and improvement in the cardiac condition and general health. He was discharged with a blood pressure of 125/80 and at last reports was in good condition.

INSULIN-FREE pancreatic extracts are said to be helpful in some cases of hypertension. They have been of no value in my hands.

Two measures for the relief of hypertension have received general acceptance within the past decade: first, surgical interference with the sympathetics and, second, kidney extracts. The various surgical procedures presumably owe part of their good effects to a change in the level of adrenal function and, through the influence of these glands, also of pituitary function. Boyer34 says that patients showing the best results from surgical pro-

cedures are the ones who often do well on medical management, namely, those with early, mild hypertension, and says that the percentage of reported success is not significantly greater with surgical than with medical management.

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m \, OR \, more}$ than ten years I have treated some carefully selected cases of hypertension by low-dosage irradiation of and adrenal pituitary regions. Three hundred and ninety-one cases have been treated in this way. Out of 305 cases that we thought had adequate treatment, 212 or 69 per cent were definitely improved both symptomatically and as regards blood pressure. Other physicians over the country have reported 307 cases of which 236 or 76.8 per cent are said to have improved.

The most favorable results have been obtained by applying 50 r to each side of the pituitary through a portal 10x10 and to the adrenals through a common portal 15x15 cm. For thirty years from time to time physicians have irradiated the adrenals in the hope of favorably influencing blood pressure. These treatments have not been very successful. Including the pituitary in these treatments and using small doses appears to make them more effective.

ONFIRMING our own observations C that only small doses of irradiation are effective in reducing blood pressure, Raab, 35 using much larger doses applied to the adrenal region, noted no effect on blood pressure though he reported ability by this procedure to relieve angina pectoris in many cases.

Baird, Lingley and Palmers reported the failure of roentgen-ray therapy of the pituitary and adrenals in essential hyper tension. However, their doses were approximately ten times as heavy as those we have found most effective. It should be remembered that small doses of roentgen rays are effective in the treatment of certain infections but heavier doses do no good.

Failure of some physicians to duplicate our results, so far as can be determined, has been due to one of three things: The doses have been too large-I have never seen good results follow the use of more than 75 r; treatments have been given too frequently or they have been given too close to the menstrual periods. We do not repeat a treatment so long as the good effects of previous exposures persist, so

that treatments may be separated by weeks or months.

W HEN symptomatic relief and a no-table fall in blood pressure occur after one treatment, no other is given until there is a rise in blood pressure or a recurrence of symptoms. If no such favorable response occurs, another treatment is given one week after the first and repeated at weekly intervals until such favorable effect is noted or until a series of six is given.

Symptomatic relief has been obtained in about 90 per cent of the cases. It occurs many times without reduction of blood pressure. By following the cases closely, giving treatment when indicated, this reduction in blood pressure and symptomatic relief have been maintained in many cases over a period of several years. In most cases, however, there is a tendency for these treatments to lose their effectiveness eventually and the blood pressure rises somewhat and is uninfluenced by further treatments.

Illustrative Cases.

Mrs. L. H., aged 54, was first seen in August, 1940. Her hypertension had been discovered in 1929 during pregnancy. She also had hypertrophie arthritis of the spine. Height 4 feet, 11½ inches; blood pressure right 240/130, left 235/130. She was sent into the hospital for rest and study, but there was no reduction in blood pressure during her hospital stay. After release from the hospital she was given one x-ray treatment to the pituitary and adrenals. Six days later her blood pressure was right 160/100, left 160/115. Further treatment maintained a blood pressure level of about 200 or a little under, but her general condition seemed to be uninfluenced by this treatment and it was discontinued. continued.

Mr. E. P., aged 46, was seen in December, 1937. His hypertension had been discovered in August of His hypertension had been discovered in August of the preceding year. He complained of vertigo, spois before his eyes, cardiae consciousness and occasional headache. His blood pressure was left 160/120, right 190/120, He was seen again in April, 1941 just after two weeks' rest in the hospital where he had had what was regarded as adequate doses of cyanates. His blood pressure was 180.195/120. He cyanates. His blood pressure was 180.195/120. He was given one x-ray treatment after which his blood pressure fell to 150/90 in both arms. When it rose to 170/100, as it did by August 20, 1941, he was given another treatment and the blood pressure fell to left 140/85, right 145/95. The cyanates were stopped after the first x-ray treatment. He was seen at frequent intervals from April, 1941 to February, 1942. During that time he had six x-ray treatments which maintained his blood pressure between 140/85 and 165/100. When last seen he was symptom free and taking no medication. symptom free and taking no medication

Mrs. K., the 55-year-old wife of a physician, was first seen April 16, 1934. She complained of pre-cordial distress which began at the age of 53, occi-pital headache, shortness of breath and vertigo.

Her father died of cardiovascular renal disease, her mother of Addison's disease, and her brother of hypertensive heart disease.

She had had one ectopic pregnancy and a hyster-

ectomy for fibroids at age 51.

Her blood pressure was right 200/125, left 230/130. She was 5 feet, 6 inches in height and weighted

190 pounds. Except for slight enlargement of the heart, the physical examination showed nothing of importance. The blood count, urinalysis and other laboratory work showed no signs of kidney damage.

She had an x-ray treatment April 18, 1934. Six days later her blood pressure was right 155/100, left 176/100. She said she felt confortably relaxed, vertigo was gone and she could lie on her left side without heart consciousness-something she had not been able to do for years.

not been able to do for years.

She had four x-ray treatments in 1934. In 1935 she had one. Her blood pressure April 12, 1935 was 165/95. In January, 1939 she wrote that she had had four good years in spite of living under more than the usual amount of strain. February 20, 1940 her blood pressure was left 210/100, right 200/110. There was some insomnia and pounding in her neck. in her neck. An x-ray treatment was given that day. Three days later her blood pressure was 155/95 and she was again free from disagreeable symptoms.

WHETHER this treatment modifies the eventual outcome of the disease or essentially changes its course is unknown. We do know that the effective working years of such patients can be prolonged. They eventually die of the same causes of which the untreated hypertensives die.

Rowntree³⁷ suggests that irradiation of the adrenal and pituitary glands may be used before resorting to surgical intervention.

Raab38 stated that prophylactic measures against essential hypertension should include periodic roentgen-ray irradiation of pituitary and suprarenals in selected individuals who seem to be particularly endangered according to their pedigree.

It should be noted that the surgeons report the same symptomatic relief as is reported following the use of kidney extracts and that the same symptoms are relieved and almost as strikingly after irradiation. Page30 noted that following the use of kidney extract in a patient with secondary glaucoma the eye returned to normal in concurrence with the fall in blood pressure. We have had one patient with glaucoma who has been followed over a period of seven years, treatment being given whenever the blood pressure rose to 160. The glaucoma improved remarkably when the x-ray treatments were started and has required very little attention in recent years. This is not to be understood as necessarily being due to the x-ray treatment.

There is nothing in either the theory outlined or the application of it that conflicts with Goldblatt's work or that of the various workers dealing with kidney extracts. We do not know how these small doses of x-ray affect the kidney. They may increase the blood supply to the kidney

and so counteract the body's tendency to imitate Goldblatt's experimental work, or they may alter the kidney's output of renin. They may change the output of the adrenals, increasing the cholin and decreasing the pressor substance output.

Controls. First, patients had been under observation long enough for us to be sure that they actually were victims of hypertension. Second, other forms of treatment had been used long enough to determine their influence. For example, in patients who were taking thiocyanates these were withdrawn when x-ray treatment was given. Third, many other factors have been used, particularly with the view of giving larger and presumably more effective doses of x-ray. Fourth, roetgenologists from neighboring towns have treated series of cases, one using the same small doses we have employed and the other using doses twice as large. The one using the small doses reported the same response we have reported. The one using the larger doses reported no influence on the hypertension or symptoms.

Low-dosage irradiation of the pituitary and adrenal region is so simple, safe and widely available that it should be universally used. While it is not a cure, our experience with it in the past ten years shows that it will relieve the symptoms in about 90 per cent of the cases and will bring about a worth-while reduction of blood pressure in about 69 per cent of the cases. The results of irradiation are not permanent. Treatments need to be repeated as indicated by a rise in blood pressure or a recurrence of symptoms. By following this method symptoms can be controlled and the blood pressure maintained at substantially lower levels over a period of several years.

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30 NORTH MICHIGAN AVENUE.

ORGANIZATION OF PLASMA BANK AND DONOR LIST IN OFFICE OF GENERAL PRACTITIONER

WILBUR S. STAKES, M.D.

Patchogue, N. Y.

MAN in his struggle to reach the high-est goal of his progress to live in peace and harmony with his neighbor has climbed from the depths of recurrent warfare to see new and life giving advances made in medical and surgical problems.

World War I gave general recognition of the value of fracture splinting at locale of injury, the Thomas Splint, transfusion of blood, and plastic surgery.

World War II has seen the world-wide use of blood typing and plasma therapy. The greatest voluntary medico-surgical project of all times has been the collection of 5,000,000 pints of blood for conversion to plasma for use of the United States Armed Forces through the American Red Cross. The development of chemotherapy by sulfa derivatives has reached a stage undreamed of a short decade ago. Penicillin, a progressively more important aid in treating infections, is now being made available in limited quantity for civilian needs. All are modern trends based on earlier foundations but developed during this age of holocaust and destruction. The progress in the study of the blood elements

Read at the Scientific Session of the Associated Physicians of Long Island held at East Williston, N. Y., June 20th, 1944.

and blood substitutes is evident in the volume of new work in hematology, so that rarely do we read a major journal of medicine or surgery in which some review or report of such work is not made. This has become increasingly evident during the past two years. The relationship of the Rh factor in erythroblastosis fetalis is of particular interest at this time.

HIS general practitioner will leave the experts the study of hematology and the development of blood substitutes, and perhaps some of the terminology of the factors relative to the clinical picture of shock, and profit by study of the works of Scudder, Craig, Kendrick, Taylor, Thalhimer, et al. However, as a frequent and all too present clinical entity, we recognize the condition of shock as a depressive change in the physical state exhibiting a shift from normal in which there is a course progressively retrograde, occasionally irreversible, and characterized by two stages, primary and secondary. Primary shock is of a mild and transient nature and is indicated by circulatory changes, producing sweating with warm skin, low blood pressure, slow and feeble pulse. mental confusion and syncope. Unless complicated by severe trauma or gross hemorhage this is transient and responds to simple measures of heat, prone posture and simple stimulants, and relief of pain.

Secondary shock is characterized by pallor, weakness, fatigue, thirst, cold perspiration, rapid thready pulse, rapid shallow respiration and low blood pressure and may be seen early or several hours following the initial injury. Early recognition of the primary stage and prophylactic treatment for possible development of secondary shock call for definitive treatment by plasma or whole blood or suitable blood substitutes. It was to assure a basic stock of plasma in this immediate neighborhood that the following project was

initiated.

THE planning and operation of a blood and plasma bank has been described by Diggs, Feder, Ehrlich, et al, and in concise detail in a Technical Manual on Preservation and Transfusion of Whole Human Blood and a Technical Manual on Citrated Human Plasma. Except for the report of Ehrlich on his work at White Plains Hospital there was no guiding hand for the project about to be initiated in

February, 1942. The writer was authorized by Dr. Leon J. Barber of Patchogue, Chief of the Medical Service of the Southern Brookhaven Town District of the Office of Civilian Defense, to investigate a project whereby plasma might be made available to the eleven casualty posts in the district and to establish a Volunteer Blood Donor List. Funds for such a purpose were not available nor could the Town Board authorize such an expenditure under the existing law. With the consent of Dr. Barber, we planned a small project suited to the needs of our community and established it in the private office of the writer as being central to this area and readily available to all stations. The ultimate result was a project privately financed and administered. The donors were private patients, volunteers from the local Fire Department, Police Departments of Patchogue Village and Brookhaven Township and from the newly organized State Guard unit.

A short five day vacation spent in New York City netted, first, a most helpful and interesting visit with Dr. Edwin H. Corwin, of the Blood Transfusion Association, then with several of the major hospital laboratories which shared in the Blood for Britain project, and with other smaller

hospitals to study their methods.

THE result of this initial survey was not conclusive. The process of producing plasma was universally marked by independence of method in each laboratory, all methods having individual advantages adapted to the needs of the particular institutions but none of these suited to our needs.

Several visits to the labortory of Dr. Lester J. Unger and personal conferences with him gave us encouragement to con-

tinue our survey.

The "Closed System" seemed most practical, since the work must be done single-handed in a small private office without laboratory facilities and without trained aid. Other necessary factors to consider in the project included the possible use of whole blood for transfusion as well as plasma. Serological tests, culture of finished pooled plasma and storage methods were also studied. Refrigeration was the only practical method since at the inception of the project a freezing chamber was not available on a small order and cost of new equipment with a recording ther-

mometer was prohibitive. Studies of Stetson, Drew, Edsell and Scudder on blood preservation were of academic interest but of no immediate service to us. A small (6 square feet) commercial electric refrigerator became available through exchange of a receipted bill for appendectomy services to a grateful patient.

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Many of the volunteer donors had no previous record of hematological or serological investigations, so that it was deemed advisable to send specimens to the New York State Branch Laboratory in New York City in all cases, which necessitated 5 to 8 days delay, which interval was deemed sufficient for satisfactory sedi-

mentation by the citrate method.

HE various tecnics studied narrowed to I one which could be entirely manipulated with ease by an unassisted operator. Cutter Laboratories had devised a Saftivalve, with locking features and roller control, and were at the time of our preliminary studies about to produce commercially a vacuum bottle for blood and plasma collection called "sediflask." This bottle was patterned after one of several used in the original Plasma for England project, and later abandoned. It appealed to me because of its safety in being a closed system, sterile, pyrogen-free and simple to manipulate with the valve styled by the same manufacturer. Earlier tests had demonstrated that it gave the highest plasma yield of any sedimentation flask, second only to centrifugal blood in a 300 cc. flask. Our experience confirmed this. During the project we used several different sizes and shapes of bottles and the "sediflask" in our hands was most practical. It has the additional advantage of being available for transfusion of whole blood (citrated) at any time during the period of sedimentation (1 to 8 days).

This flask is approximately 12 inches in height, dumb-bell shaped with "bells" measuring approximately 3½ inches in diameter with a narrow constricted portion—2 inches, and graduated roughly in 50 cc. to 550 cc. levels; actually, the bottle has taken as much as 600 to 650 cc. with sufficient vacuum remaining. The flask contains 50 cc. of 5 per cent sodium citrate in physiological saline. Plasma cultures were taken from the pools of 2000 cc. and innoculated on Kracke's medium and on blood agar plates and observed for 15 days. Following the transfer to indi-

vidual dispensing flasks, cultures were taken at 3 and 6 month intervals; but after a personal interview with Col. Kendrick in June, 1943, we substituted the use of Brewer's medium with the same 15 day incubation of culture. Loss of one plasma pool out of eighteen pools was observed due to air-borne staphylococci in our initial change from "refrigerated" to "room temperature tecnic" as used at the Army Medical Center.

RIEFLY, the procedure of blood tak-Bing followed closely that used by the Blood Donor Service of the American Red Cross. Prospective donors signed release, were examined for blood pressure, heart, lungs, history of acute or chronic infection, and a hemoglobin determination was made. A fasting donor, free from contagious disease and with a negative history for tuberculosis, malaria, or venereal infection, was prepared by painting the selected antecubital area with 31/2 per cent tincture of iodine, use of 1 per cent procaine at the selected puncture site, and venipuncture. Blood for serology was drained from the pilot tube after the bleeding and a citrated specimen taken for blood group typing. The serology and typing service were given the donor as a courtesy for the donation and listing in the file for future transfusion calls. The usual donor day would accommodate 6 to 12 bleedings, spaced to occupy a Sabbath morning from 8 to 12 including refreshments as desired, hot coffee or whisky of choice, after bleedings. The typing was done in this office and serology in the New York State Branch Laboratory as previously noted. The processing of equipment was done at John T. Mather Memorial Hospital at Port Jefferson, by the Operating Room Staff. The Laboratory Staff and facilities under direction of Dr. Reidar Trygstad, pathologist at the same hospital, completed all cultures and rendered valuable assistance throughout the venture. Plasma was drawn from the 1/2 liter sediflask and pooled in empty 2000 cc. flasks. One step we interposed, not mentioned in the early work on plasma collection, was the use of a standard filter between the individual donor flask and the pooling flask and between pooling flask and final dispensing container. Of course, a filter is used in dispensing to the patient. At the present time we have a volunteer donor list of 165. There is a plasma stock

on hand of 12 units of refrigerated plasma, 8 units of frozen plasma (plus 12 units from O.C.D.), and 40 units of fluid plasma at room temperature.

WE have used three methods of plasma storage, 1. Whole plasma in a 300 cc. flask for refrigeration and, 2. Plasma frozen in a small commercial ice cream storage unit purchased late in the project, 3. Storage at room temperature of whole and dilute plasma from pools containing dextrose and 1:10,000 "merthiolate" (Lilly) added as a preservative. We found that the refrigerated plasma after several months exhibited heavy fibrin formation, which, however, filtered out readily. The use of pools with dextrose 5 per cent in saline gives a uniformly clear plasma with virtually no fibrin on refrigeration or by room temperature technic.

From a total of 165 donors, 2 showed anticomplementary reactions which on later check-up reported negative serology; all others were negative. Three donors developed early syncope which responded to prolongation of bleeding interval, and inhalation of aromatic spirits of ammonia.

There have been no reactions attributed to the use of plasma reported. The stock has been kept fresh, using old stock in treatment of traumatic shock, postoperative shock, and hypoproteinemia; one case of persistent mucosal hemorrhage following use of dicumarol for relief of postoperative thrombophlebitis was controlled by 2 units of our plasma.

We are maintaining our stock of fluid plasma of 24 units for possible civilian casualty need by exchange of older with newer plasma from an extension project at John T. Mather Memorial Hospital.

HE cost of plasma as produced by the Cutter System amounted to approximately \$5.00 per unit. The non-expendable equipment remaining ready for further use will reduce the cost to that of the necessary glassware, or \$1.25 per unit.

We have equipment on hand to produce an additional 25 units of plasma.

We now have a plan to check all Type IV donors for the Rh factor.

Baxter glassware was used at Mather Hospital program using the Cutter safti-

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Infantile Paralysis Aid

THE American people have contributed an all-time record of \$10,973,491 to the 1944 fund-raising appeal of the

National Foundation for Infantile Paralysis. These donations will permit an expansion of the war against the children's enemy on the home front.

DONALD def. BAUER, M.D.

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Durham, North Carolina

THE phenomena of symmetrical disease . . . are now carefully studied by many, but those of the modifications of disease associated with the defects of symmetry need study too. I have constantly observed them during many years; but I am ashamed to say, have made no exact records of them, and can, therefore, do little more than suggest some of the lines of study which may yield to others better results than I have gained. The study should include the defects of symmetry or similarity not only of size and shape, but of composition and of rates and methods of development, degeneration and disease. These are too often dismissed from study when they are called 'exceptional cases'; a mischievous phrase if it be deemed explanatory; for I suppose that an 'exception' to one rule is only an example of another rule which is as yet unknown." Thus wrote Paget in 1886. (4) Some of his examples of asymmetry were:

- Blushing—he wrote of a girl "who blushed on only the left side of her face and neck, and her mother told me that she herself used to do so. The ruddy blotches at the borders of full blushes are seldom similar on the two sides."
- Breasts—"They are, indeed, very rarely symmetrical in either size, level, shape, utility for nursing, or liability to disease."
- Sweating—"I know a case in which sweating, whether in health or disease, is profusely greater on the left side than on the right."

OBSERVATIONS of this type have accumulated in medical literature since 1886, but for the most part they may not be found without prodigious zeal. Generalizations based upon such data have never been made, consequently, from a sufficiently large body of observations. It is true that interesting and often unproven (but unchallenged) explanation are set forth regarding several well-known examples of asymmetry in disease. It may indeed prove worth while to assemble

these and other observations for which explanations are not readily accessible. Contributions, from those who are familiar with material to which I have not had access, will be more than welcome.

I. Glomerular Embolism in Endocarditis.

"The kidney is a seat of predilection for heart emboli (endocarditis). This is particularly true of the left renal artery, which arises at a less acute angle from the aorta and so allows more readily entrance of a foreign body." (3) In an attempt to test this, I have reviewed all cases of endocarditis found in a series of 4000 autopsies. I think it worth while to point out that this review was non-productive, and to state the reasons. To begin with, the series was done by a number of different men, none of whom is known to have interested himself specifically in the problem of asymmetry. Consequently the observations about asymmetry, when present, are somewhat casual; they are often contradictory in different parts of the same protocol. As a result these data, derived from about 40 cases of endocarditis, do not offer a challenge to-and do not substantiate—the statement of Oertel; but they do indicate the method which must be followed if progress is to be made in thisfield of inquiry. Some interested pathologist must establish a routine which will provide for the correlation of gross and microscopic observations on asymmetry in disease, under supervision of individuals who are determined to test the validity of current opinion.

II. Movable Kidney.

Several authors (including: 1, 2) agree with Squier (5) that acquired renal malposition is more common on the right side (15 on the right to 1 on the left). Squier has observed greater incidence in women and especially in thin, multiparous ones with long, flat, narrow chests, acute subcostal angles, shallow lumbar vertebral curves, and shallow, wide, more vertically pitchel renal fossae. The "kidneys are held in position in the paravertebral fossae or renal niches chiefly by their fatty capsules and by intra-abdominal pressure ... " (5) Consequently, any rapid absorption of perirenal fat (cachectic disease) and sudden decrease of intra-abdominal pressure (parturition) may lead to nephroptosis. The greater frequency of floating kidney on the right may be due (5) to:

1. movement of the right kidney with descent of the liver in respiration,

2. firmer anchorage of the left, with shorter renal artery,

3. larger extent of solid, non-mobile, retroperitoneal organs in the ventral

relations of the left kidney. The clinical importance of nephroptosis needs no emphasis. The possibility of utilizing existing therapeutic methods for prevention of this condition, could we but determine with certainty the cause, makes further inquiry worth-while.

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SPECIAL ARTICLE

REFRESHER COURSES FOR ALLIED DOCTORS

CHARLES NORMAN, M.D., F.R.C.P., M.R.C.S.

Acting Dean, British Postgraduate Medical School, University of London.

BEFORE this war, the Postgraduate Medical School in London used to organize, among its other activities, refresher courses for general practitioners. The regular staff of the school was fully occupied with the education of the ordinary graduate students and with research work, so the refresher courses were given. for the most part, by eminent teachers from other hospitals. The courses used to last a fortnight. When the strain of the war on general practitioners put a stop to refresher courses, the School decided to continue to use its experience with this kind of course and its contacts with teachers. It organized something of the same nature, as a contribution to the war effort-special war courses for serving officers.

The war courses last from Monday to Friday, and are given in alternate weeks. Gradually, a complete cycle has been built up, dealing with the war surgery of the chest, abdomen, nervous system, limbs and so on, with war medicine and recent advances in the medical aspects of war

injuries and with the special care of the soldier in training. These courses consist mainly of lectures, but one of them, on the treatment of fractures, occupies perhaps a special place; firstly, because it is given for the most part by one of Britain's most distinguished orthopedic surgeons, and secondly, because it is largely practical, every student having the opportunity of himself applying, to living models, plasters appropriate to the treatment of various fractures.

HE war courses have been an outstanding success. Medical officers have been sent from the Army, Navy and Air force, from the Australian and New Zealand forces, from the Polish, Czechoslovak, Dutch, French, Belgian and Norwegian forces, and, in much larger numbers, from the Canadian and United States forces. Not only do men of all nations and all ranks attend the courses (the students range from lieutenants to brigadiers) but the Allies also contribute lecturers. For instance, the lectures on frost bite have been given by a Norwegian, jaundice has been dealt with regularly by a United States Colonel who, in peace time, is a Professor at Harvard, and distinguished Canadian consultants have lectured on pneumonia and other subjects. It is amusing to watch the faces of Harvard graduates, attending instruction in England, and finding that one of their own profes-

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The number of students attending each course varies. Between 40 and 80 is an average, but it has been as many as 110. In the case of the fracture course, the number has to be limited to 60, so that all the students will have the personal opportunity of putting on plasters. Over 3,000 officers have attended these war courses since their inception, which certainly suggests that the services have found them useful. They have provided, in convenient form and length, instruction about the most modern methods and their application to the special problems of war, problems with which serving medical officers were not familiar in their peace-time practice.

As the courses have progressed, it has become possible to obtain more and more lecturers from the emergency medical and fighting services who can speak from actual war experience, culminating in the courses on medicine and surgery as applied to conditions anticipated on the Continent of Europe, which were mainly given by officers returned from the front to the medical officers of the Allied expe-

ditionary force.

THE Caradian Army, which had so much of the unenviable task of standing and waiting for their part in the present invasion operations, and the Army of the United States, during the period of its assembling in Britain, have found the war courses a valuable occupation and mental relief to their officers.

The association of men from so many of the Allied nations in this professional capacity has also been a great opportunity for the general promotion of comradeship and understanding. Those from the United States forces particularly are a sociable people and have mixed well. They were provided with quarters in the Hammer-

smith Hospital (to which the School is attached) by the hospitality of the London County Council. Although they could have had lunch in their own dining room in the Hospital, they preferred to join with the rest of the class, in the School refectory, at their own expense.

Social activities are difficult to arrange in war-time, and although there is a general atmosphere of sociability by day, the classes tend to go their own ways in the evenings. The chance of an evening in London is a great opportunity to many of the members after having been stationed for months in remote country places.

Without exception, they all welcome this temporary return to the academic atmosphere of a university school: this atmosphere is always one of the most important revivifying influences of a good graduate school, and serves to emphasize their individual pleasure at being on the growing edge of the science of medicine, and of being one of a community involved in the search for knowledge for its own sake, and the investigation of disease, regardless of time and cost, for the sake of the patients.

OFFICERS of the Army of the U. S. were interested in the differences between Britain's methods of teaching and that of their own country. They showed no hesitation in saying how much they were impressed by English plaster of Paris, which, it seems, is of a better quality than that in the United States, just as their surgical rubber seems to be generally so much better than that used in Britain.

The Army of the United States has now ceased to send its officers. The future of the courses is uncertain; it depends on the development of the war. From the educational point of view, they have served their purpose; from the point of view of the promotion of international understanding, maybe they have served another purpose, which was not foreseen, but which may be of no less ultimate value.



International College of Surgeons Meeting

THE program at the Ninth Annual Assembly of the United States Chapter of the International College of Sur-

geons will be devoted to War, Rehabilitation and Civilian Surgery. The sessions will be held at the Benjamin Franklin Hotel in the City of Philadelphia, October 3, 4, 5, 1944.

CANCER

Edited by John Mumford Swan, M.D. (Pennsylvania), F.A.C.P. Executive Secretary of the New York State Committee of the American Society for the Control of Cancer, Inc., assisted by Charles William Hennington, B.S. (Rochester), M.D. (Hopkins), F.A.C.S.

CANCER OF THE BREAST VI. **METASTASIS**

S a rule, metastasis from a primary A breast cancer occurs first to the axillary lymphnodes and is the result, according to Shields Warren, of lymphatic emboli.

In a study of 162 cases Warren (16) found metastases to the axillary lymphnodes in sixty-one (37.6 per cent), to the distant nodes in 116 (71.6 per cent), to the adrenals in 50, to the bones in 69, to the liver in 89 to the lungs in 94, to the peritoneum in 21, to the pleura in 56, to the skin in 61, and to the spleen in 23. The metastases in these cases averaged over five per case. And it would appear from the fact that metastatic deposits found in the distant lymphodes outnumbered those found in the axillary lymphnodes that the spread of breast cancer often bypasses the axillary nodes.

He says that it is not infrequent to see a large colloid carcinoma of the breast of some years duration with no involvement of the regional lymphnodes; while, on the other hand, a small inconspicuous mass, apparently of short duration, will show the most bizarre and widespread metastases. In general, the larger and more bulky the local lesions the less extensive the distribution of metastases is likely to be. At times the first manifestation of trouble will be found as the result of these metastases, such as pathological fracture or intracranial pressure. No other common cancer shows such widespread metastases as breast cancer.

I N a paper by Daland (6), in 1927, the author said that in 100 cases of breast cancer, untreated with either surgery or irradiation, metastases to the lungs or the pleurae were found in eighteen, to the liver in eleven, to the skeletal system in

A paper by Harrington (10), in 1933, pointed out the fact that palpable axillary

lymphnodes are not always due to metastasis. In his cases, during the year 1932, 60.0 per cent of the patients had palpable nodes in the axilla. However, on microscopic study 32.0 per cent of these enlarged lymphnodes proved to be inflammatory. On the other hand, in the 40.0 per cent of patients in whom palpable axillary lymphodes were not discovered before surgery was undertaken 29.0 per cent showed carcinomatous metastases when the operative material was examined histologically.

Eberts (7), also, is of the opinion that palpable axillary Imphodes are not definitely significant of metastasis; they may be inflammatory. On the other hand, the fact that the axillary lymphnodes are not palpable does not exclude the possibility of metastasis.

EDDY and Desjardins (12) studied a series of 644 cases of cancer of the breast referred to the section on Therapeutic Radiology of the Mayo Clinic (Rochester, Minnesota) for treatment of recurrent, metastatic or inoperable lesions between 1924 and 1933 inclusive. Metastases to the supraclavicular lymphnodes were diagnosticated 358 times (54.0 per cent). The metastatic disease in their view usually becomes apparent during the first three years after operation. In nine cases in this series, the metastases were not demonstrable until five years or more had passed (2.5 per cent).

In 126 of the cases, in which grading was done by Dr. Broders, eighty-eight were grade IV, thirty-three Grade III and five

Grade II.

Creyssel and Morel (5) report the following frequency of metastases: to the peritoneum, 1.6 per cent; to the lymphnodes of the opposite axilla, 2.4 per cent; to the opposite breast, 2.4 per cent; to the liver, 2.4 per cent; to the lymphnodes of the same side, 15.0 per cent; to the supraclavicular and carotid lymphnodes, 20.0 per cent; to the pleurae and the lungs, 19.0 per cent; to the skeletal system, 27.0 per cent, and local recurrence, 38.0 per cent.

In the 640 cases reported by Haagensen and Stout (9) metastases became active in 316 within five years (49.4 per cent).

The sites of metastatic involvement were: lungs and pleurae, 138 (21.6 per cent), skeletal system, 114 (17.8 per cent), supraclavicular region, 89 (13.9 per cent), liver or peritoneum, 63 (9.8 per cent), opposite breast, 58, (9.1 per cent), in the contralateral axilla, 49 (7.7 per cent), in the regional skin or en cuirasse, 31 (4.8 per cent); distal skin areas, 21 (3.3 per cent); in other sites, 39 (6.1 per cent).

Browse (2) reports two cases of cancer of the breast with widespread metastases. In one there were metastases to the axillary and supraclavicular lymphnodes, the bones of the thorax, the shoulder girdle and the pelvis. In the other, to the innominate bones and four vertebrae.

CHARACHE (3a) reports a case of duct cell carcinoma of the breast in a woman, aged 46 years, in whom metastatic tumors developed in the skin of both thighs. The author considers that the route of the metastases was through the lymphatic system. There were also metastases in the mesentery, the omentum, the right pleura and the pancreas.

Baumann (1) reported a case in which a breast cancer metastasized to the stomach and the intestines, the gallbladder, the urinary bladder, the great omentum, the skin, the scar in the axilla, the tongue and the spleen.

In eleven cases of intraductal carcinoma of the breast, Lepper and Baker (13) found regional lymphnode metastases in three while in six there were positive statements that no enlarged lymphnodes were found.

McMenemey (14) reports a case of solitary metastasis in the spleen from a carcinoma of the right breast. There were no other metastases in the abdominal organs. This occurrence is looked upon by the author as evidence against the view that there is a "specific antagonistic" action on the part of the cells of the spleen against carcinoma cells.

FOOT and Moore (8) report the case of a woman, aged 56 years, who had had a breast tumor for twenty years. She sought advice because, for three months, the tumor had been increasing in size and had become painful. Following radical mastectomy the patient complained of chest pain and cough and had a spontaneous fracture of the right femur and died in about five months. The primary tumor was an epidermoid cancer, of the "spinocellular type" with intercellular bridges and some pearly body formation. At autopsy metastases were found in the lungs, the tracheobronchial and the cervical lymphnodes, the skeletal system, the liver, the spleen, the stomach wall, the small and the large intestines and the brain.

Saphir and Parker (15) emphasize the occasional small and clinically unnoticed carcinoma which may give rise to wide-spread metastases. They studied forty-three cases of primary cancer of the breast which had come to autopsy in Michael Reese Hospital (Chicago) from the viewpoint of metastasis. They found that there were metastatic growths in the spleen in ten cases (23.2 percent), to the adrenal bodies in nineteen (44.2 per cent), and to the ovaries in seven (16.3 percent).

No metastases were found in three of the cases. Metastases to the lungs were found in twenty-eight cases (65.1 percent) and to the liver in twenty-four (56.0 percent).

While breast cancer, as is generally known, metastasizes widely throughout the body, it is not generally known that metastatic tumors are to be found in the breast.

Charache (3b) reported two cases. One in which there were tumors in both breasts metastatic from a hypernephroma of the right adrenal, and one in a man with a tumor in the right epitrochlear region, and another, as large as a grapefruit, in the right breast, both shown to be metastatic melanocarcinomata. The primary tumor was thought by Charache to have developed in the epitrochlear region although the pathologist reported the epitrochlear node to be metastatic also.

Chilko and Quastler (4) contribute a study of twenty-nine cases of late recurrence or late metastasis of cancer of the breast. IN three cases the metastases appeared after a quiescence of more than five

years (10.3 percent).

In one case the patient had had a radical breast amputation for a medullary carcinoma, axillary nodes not involved, in 1925. In 1940, fifteen years later, she complained of right upper chest pain and dyspnea on exertion and was found to have a pulse rate of 100. A roentgenogram showed "a dense shadow with a concave outline emerging from the left border of the heart shadow." The patient died and at autopsy tumor masses were found in the left axilla, the mediastinal tissues, pleura and pericardium. The phrenic and pneumogastric nerves were involved in the tumor mass.

Histologically, the growths were "alveolar carcinoma of the mammary type."

Keynes (11) refers to the work of J. H. Gray, who showed, using thorotrast and barium, that there is no lymphatic plexus in the deep fascil layers of the chest wall and that the lymphatic system of the breast is situated in the gland and on its surface. The main lymphatic trunks pass around the anterior axillary fold to the axillary lymphnodes. He then says that if these observations are correct it will be necessary to revise our conception of the method of spread of breast cancer.

T seems to us that the conclusion to be drawn from the review of these papers is that every breast tumor should be looked upon with suspicion and that every effort should be made to establish the freedom from local or distant metastasis

before treatment is undertaken. There are so many instances in which surgery is followed quickly by death from metastases, which are present at the time operation is done, but which have not been discovered, that the family questions the competence of all treatment measures; so producing the "nothing can be done about it" attitude. Be suspicious. Look for metastases. Remember that distant metastasis may be present even in the absence of regional extensions.

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Fitness Plan Reaching Down to Small Factory

THE broad program now under way to improve and safeguard the health of the nation's industrial workers is emphasized by Dr. W. W. Bauer, director of the Bureau of Health Education for the American Medical Association.

In an address delivered July 25 Dr. Bauer declared that when battle lines extend from the far corners of the earth into the remotest American hamlet where industrial production takes place, the health of the industrial worker takes equal rank with that of the fighting man. Riveter, press operator, machinist, inspector, and draftsman, not to mention executive and stenographer, are as vital to victory as machine gunner, bazooka team, ack-ack gunner, or pilot.

Accordingly, the AMA through its Council on Industrial Health, in addition to guiding the organization of industrial health committees in state and county medical societies throughout the country, has devoted special issues of the association's publication to the subject.

In furtherance of its purpose of im-proving the health of the production front, the Council also has been instrumental in introducing its study in the curriculum of medical schools and postgraduate courses for positions.

PHYSICAL THERAPY

Some Uses for Dry Cold Therapy And a Proposed Cooling Cabinet

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W. G. Bigelow and E. C. G. Lanyon (British Medical Journal, 1:215 Feb. 12, 1944) describe a cooling cabinet which is "a relatively simple self-contained unit" suitable for military use. Treatment by dry cold is indicated in frost-bite and immersion foot and in wounds or injuries of the extremities that have impaired the blood supply to such an extent that there is danger of ischemic gangrene. In all such cases cold reduces cell metabolism until enough oxygen can be made available by the blood supply to satisfy the metabolic requirements at body temperature. Cold therapy is also indicated in traumatic arterial spasm and peripheral embolism for the reduction of the metabolic requirements of the tissues until the circulation is restored by medical or surgical measures. The cabinet described is designed to accommodate two limbs if necessary; it is cooled by cold brine that circulates through coils in the wall. The temperature in the cabinet is regulated by adjusting the rate of flow of the brine, using a stopcock and thermometer, so placed that the patient "can do his own adjusting." The brine is cooled in a reservoir to a predetermined temperature by a refrigerating machine. This machine with the brine reservoir is "a mobile unit" operated by electricity. Several cabinets can be attached to the brine supply at one time. Experimentally it has been found that to maintain a cabinet temperature of 4° to 6° C, the temperature of the circulating brine should be 0° to -2°C. With a small experimental cabinet designed to accommodate a hand and forearm, it was found that after two hours' exposure at a cabinet temperature of 12°C., the limb was "completely chilled," as shown by the subjective numbness and by the fact that the skin temperature remained below normal for several hours after the extremity was removed from the cabinet.

COMMENT

Further contributions on the use of cold in medical and surgical conditions continue to appear in the literature, in the effort to evaluate the measure and to supply a simple machine or method that will bring about recovery "safely, quickly and pleasantly" as laid down by Keltic physicians in the ninth century A.D.

whilst ice is the cheapest, most quickly available and best known of the ways for inducing hypothermy where it can be had in abundance, in hot climates it is most certain to be had only if manufactured by electrical refrigerators. The cooling cabinet in use first in Buffalo several years ago was the forerunner of various types. A compact, small machine described in these pages previously, it can be placed on the running board of ambulance, plane or any vehicle and be ready for action instantly.

The United States Navy Medical Department in the South Pacific is using ice-making machines to produce ice within 60 seconds, for the use of "refrigeration anesthesia". These machines can produce a ton of flake ice in 24 hours, a great boom to the Seabees marooned on island outposts as reported in the June, 1944 MEDICAL TIMES.

M.C.L.McG.

Physical Therapy in Ophthalmie Treatments

N. I. Lanckenau (British Journal of Physical Medicine, 7:45, March-April, 1944) notes that long-wave diathermy has been used in the treatment of diseases of the eye that "usually respond to the application of heat" for many years. More recently ultra short-wave therapy has been used in eye diseases. The author prefers long-wave diathermy for the treatment of acute and subacute glaucoma, but finds the ultra short-wave method more effective in infections of the anterior segment of the eve and adjacent parts, ulcers and corneal nebulae. The ultra short-wave may also be used in some cases of glaucoma. In long-wave diathermy the aitine electrode is either a saline cup or an electrode covered with

two layers of lint soaked in 2 per cent saline, applied to the eye and held in place by a rubber bandage. The inactive electrode is a metal plate covered with four layers of lint soaked in 10 per cent saline solution. The milliamperage of the current is gradually increased until the patient notices a "sense of warmth," usually at 300 to 500 milliamperes. The first treatment lasts five minutes; this is gradually increased, by one minute daily,

ten minutes. The pain of glaucoma is almost invariably relieved after the first treatment, the tension is reduced and vision improved after a few treatments. Eserine acts more effectively in controlling tension. With short-wave diathermy, "athermic" treatment is used in diseases of the eye, that is, the current is adjusted so that heat is "just felt," then reduced to the point where heat is not perceived. Two Schliepae electrodes are used; the electrode skin distance is 2 cm. One electrode may be placed at the side of each eye; or one electrode

above the forehead on the affected side and the other below the chin or at the side of the opposite jaw (cross fire method); or one electrode in front of the affected eye and the other at the back of the head (also a cross fire method). With the cross-fire methods the duration of treatment is increased from two and a half minutes up to seven and a half minutes by one minute each day. General ultraviolet light baths with the carbon arc lamp, with sunlight cored carbon, or the mercury vapor lamp are of definite value in the treatment of various infections of the eye, especially infections of the eyelids and conjunctiva, and chronic, especially tuberculous, infections of the

eye. Local ultraviolet treatment with the water-cooled mercury vapor lamp, using a suitable applicator, is also indicated in diseases of the lids, conjunctiva and

COMMENT

Diathermy in small dosage is most acceptable to the affected eye. Too often, however, too much heat is given on the presumption that "if a little be good, a great deal is best." This defeats the pur-

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MADGE C. L. MCGUINNESS

diathermy used in inflammations and infections, because of the ease of applibuilding up of the machine, not from the turning on of the machine.

"Athermic" is rather a misnomer. There can be no energy without heat being generated, however slight, and vice versa. It may be difficult to measure grossly but it can be ascertained by more

sleep, moving air, sunshine at the proper hours, and

graded walking, are natural methods for building up the fitness this type of patient lacks. Artificial aids include the ultraviolet, general and local, by the means described. Care must be taken with these modalities. Subminimal dosage makes for success, not large doses. Watch the skin, especially the white, thin-skinned or the blonde or red-head (by Nature, not out of a bottle), or you will come to grief.

M.C.L.McG.

Histamine Ion Transfer; A Five Year Evaluation

Gynecology

Nose and Throat-Otolog-

Physical Therapy

and Social Hygiene

I. F. HUMMON (Archives of Physical Therapy, 25:212, April 1944) has employed histamine ion transfer at Cook County Hospital for over five years as a

pose of the treatment. A very slight rise in temperature may be all that is bearable, permissible, needed; especially is this true with the short wave cation. The time means from the

delicate instruments.

Proper food and

substitute for heat in arthritis and other conditions. A solution of 1:1000 histamine dihydrochloride is employed; usually about 10 cc. is sufficient. A piece of gauze large enough to cover the part to be treated, about four thicknesses, is lightly wrung out of the solution, and laid directly on the skin over the part to be treated. A towel moistened in tepid tap water is placed over the gauze. A block tin electrode, which need not cover all the towel, is fastened over this with an elastic bandage. This electrode is connected with the positive pole of a galvanic machine. The negative pole is connected with a moist pad which may be placed on any other portion of the body, preferably at some distance. In some cases an ointment containing 1 per cent of histamine dihydrochloride may be spread thinly on the skin over the part to be treated, instead of using the solution; this is covered with the moistened towel and the electrode attached as above. Any source of galvanic current may be used; the simplest source is a radio B battery. The dose is calculated as 50 milliampere minutes. If a maximum local and minimum systemic effect is desired, employ 5 milliamperes for ten minutes; for more of a systemic effect, a higher milliamperage for a shorter period, as 10 milliamperes for five minutes. This method has been used for about 10,000 treatments in over 1,000 patients. The cases treated include posttraumatic conditions (40 per cent); acute traumatic conditions, such as bursitis, neuritis and sprains (20 per cent); arthritis (20 per cent); peripheral vascular disease and miscellaneous conditions (5 per cent each). In post-traumatic and acute traumatic conditions, the results obtained with histamine alone or with histamine and exercise are equal to or better than those obtained with heat, massage and exercise; acute injuries, swelling and discoloration are rapidly reduced. In arthritis, definite improvement is usually obtained, as long as treatments are given regularly, but the improvement is not lasting. In peripheral vascular disease some improvement usually results if treatment is prolonged. The author finds that the local effects of histamine ion transfer are similar to those of heat but that they last longer; it has beneficial and desirable systemic effects. The treatments require but little time; the technique is simple; and a large number of patients can be

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cared for by a limited personnel—a definite advantage under present conditions.

COMMENT.

Histamine electrophoresis has been enjoying quite a vogue since its introduction about 18 years ago. 1 in 3000 was the original dilution used on asbestos paper as this was then plentiful and cheap. Too strong and prolonged action on sensitive skins necessitated higher dilutions or shorter time: 1:10,000 dilution for 10 minutes is frequently all that can be borne by tender skinned individuals who thus get a maximum local effect with none of the disagreeable general effects at first found, as heat, flushing, headache, profuse sweating. Pain is the chief reason for its use. Since paper, and especially asbestos paper, is now scarce, the gauze does very well, indeed, as in other galvanic treatments. Be careful of overdoing; pain may be made worse by too much heat being brought to the part, and there may be markedly uncomfortable general effects. Smaller dosage, higher dilution, longer time are best. The local wheals may last from one to several hours, but leave no permanent marks.

The Action of Electric Blankets

G. M. BROWN and K. MENDELS-SOHN (British Medical Journal, 1:390, March 18, 1944) report a study of action of the electric blanket as compared with the radiant-heat cradle. The electric blanket used is a large heating pad of the usual type, 33 x 46 in.; the total amount of heat produced by the blanket is about 100 kilogram calories per hour. The blanket is placed on the bed with an ordinary woolen blanket over it; the patient is placed on this and covered with another blanket. In the authors' experiments with normal volunteers they were allowed to put their arms on top of the blanket. As the material between the heating wire and the skin of the patient is opaque to the only radiation emitted (infra-red radiation), it is "reasonable to assume" that the blanket acts by conduction of heat to the patient. In the tests reported the subjects were submitted to heat treatment with the blankets for one to two hours; comparative tests were made with the radiant heat cradle. The body temperature was determined either by an oral thermometer or by an electric recording rectal thermometer. The rise in body temperature was slower with the electric blanket than with the radiant heat cradle. The cradle, therefore, should be used when

M.C.L.McG.

heat is required quickly and in large quantities. The blanket is preferred when less heat is required and "forethought is possible." The electric blanket is safe and requires little supervision at ordinary heating rates. None of the volunteers in the tests made complained of skin discomfort and there is much less risk of burns than with the cradle.

COMMENT.

The "electric blanket" is much prized by "health studios and beauty parlours", particularly for weight reduction. It is too slow in action for the busy clinic or office where time from work is a prime consideration. It may be used at home where the patient may have nothing to do and all day long in which to do it. It is definitely not superior to the radiant heat cradle which has a more penetrating effect in a shorter period.

When the blanket was used in fever therapy the patients complained of more discomfort than from the radiant light and begged for its removal long before the required time. Defective wires may cause burns, as has happened with the ordinary electric pad, and too long a treatment and too high a temperature may be too enervating. Size up the patient and watch the modality.

M.C.L.McG.

Sulfathiazole Iontophoresis

J. F. CULLINAN (Medical Bulletin of the Veterans' Administration, 20:328, Jan.

1944) reports that sulfathiazole employed iontophoretically, using a current of 20 milliamperes, inhibitde the growth of staphylococci in vitro. Application of sulfathiazole by iontophoresis to the normal skin caused hyperemia, and in some persons signs of sensitivity to the drug (a rash). In the treatment of ulcers and infected wounds, sulfathiazole iontophoresis not only has a sterilizing action, but also increases the local blood supply, both factors being essential to rapid healing. No signs of toxicity are observed when sulfathiazole is used in this way. While powdered sulfathiazole, when applied to wounds and ulcers, tends to "cake" and cause a foreign body reaction, this does not occur when it is used iontophoretically, and absorption is much more rapid with iontophoresis.

COMMENT.

Sulfathiazole electrophoresis is decidedly new. We have been advisd so often to use the sulfa drugs with great precaution because of sensitivity, possibility of poisoning, delayed reaction, pain, etc., that we will try out cautiously electrophoresis in the delicate skinned, the weak and the old. If local applications of the ointment can do fairly well, there is no need to add electricity for driving in the ions—unless the recovery is markedly slow, or non-existent.

M.C.L.McG.

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PUBLIC HEALTH, INDUSTRIAL MEDICINE AND SOCIAL HYGIENE

The Use of Miniature X-ray Films in Tuberculosis Control

H. L. HIEBERT (Journal-Lancet, 64: 101, Apr. 1944) reports the use of a miniature x-ray photo fluorographic unit loaned by the U. S. Public Health Service in the examination of workers in war industries and others in "war work areas" in Kansas; 35 millimeter films are used. In the examination of 21,427 apparently healthy individuals by this method, 171 cases of tuberculosis or "suspicious" of tuberculosis were found. Final diagnoses based on the findings in a standard 14" x 17" x-ray film showed definite tubercu-

losis in 103 cases. In addition 105 cases with non-tuberculous pathological lesions in the chest were found by means of the miniature films. In the 103 cases of tuberculosis, the author notes the ratio of the minimal to the advanced cases of tuberculosis was the reverse of that in the cases coming to the attention of the health department "through the usual channels." The disease was minimal in 68 cases or 66 per cent, moderately advanced in 31, or 30 per cent, and far advanced in 4, or 4 per cent. All persons x-rayed received personal reports, and were referred to their family physician for further examination and treatment if any pathological conditions were found. In industry, workers whose disease is found to be inactive after a complete examination, are allowed to continue work under medical supervision; occasionally a change in the type of work is made. For workers with active after a complete examination are positive sputum, provisions are made for isolation and treatment. The ultimate eradication of tuberculosis depends upon the diagnosis and treatment, not only of advanced but also of minimal cases. Tuberculosis "must be seen, not felt or heard"-seen on an x-ray film, not felt by the patient or heard with a stethoscope. This involves routine x-ray examinations of all patients entering a doctor's office or hospital, and also of large groups of the general population. Miniature photofluorography is the only method available for such general use.

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COMMENT.

The use of the 35 millimeter film offers a rapid and fairly reliable screening and case finding procedure now available for mass surveys. All control programs should be planned to find the early ("silent") case in order to institute imn. diate treatment so that ultimate cure will result. As these surveys are continued in both the industrial and general population the number of open and untreated cases will decline. Arrested cases of tuberculosis should be periodically followed for a period of time depending upon the individual variations of age, race, sex and socio-economic factors. The educational value of mass surveys is tremendous. A tuberculosis conscious population that has learned not to fear an x-ray will go a long way toward controlling tuberculosis.

E.G.B.

Syphilis Control in War Time

J. R. HELLER, JR. (Southern Medical Journal, 37:219, Apr. 1944) presents a discussion of the incidence of syphilis and methods of control employed in the United States in war time. Serological tests on the first 2,000,000 men examined under the Selective Service Act showed 47.7 in every thousand 21 to 35 years of age to have syphilis; the rate was 272 per thousand among Negroes and 23.5 among whites. The combined white and Negro rates in the South were more than four times that in the North. Since 1938 the number of public venereal disease clinics in the United States has increased from

1,122 to 3,700, and the number of syphilis admissions to these clinics has increased from 150,000 to 430,000. Cooperation in the work of venereal disease control has been established between the Army and Navy Departments, the Federal Security Agency, the Public Health Service and the State health departments. The epidemiologic tracing of venereal disease infection has also been developed to a greater extent than ever before in the last two years; at least 8,000 health department employees are engaged in "venereal disease epidemiology" for full or part time. This work is greatly aided by the reporting of the results of the selective service serologic tests to State health departments; and also by "the contact reports" furnished health departments by Army and Navy medical officers. Because of the difficulty of holding infectious syphilitic patients under standard weekly treatment for a sufficient length of time, rapid treatment centers have been established by cooperation between the Public Health Service and state health departments, where specially trained physicians and nurses carry out the various accepted rapid treatment methods. Statistics published by the Army recently indicate that their syphilis rate has declined to a "new all-time low" in 1943; the Navy shows a slight increase over 1942 at which time the rate was low. By June 30, 1943, serological tests for syphilis had been made on 14,000,000 men in selective service; 710,000 had evidence of syphilis; on the basis of the rate in the first 2,000,000 men examined, the number of serologic positives would have been 750,000. This would indicate that there is no wartime increase of syphilis in the United States, but "continuing vigilance and increased efficiency" in syphilis control are still necessary.

COMMENT.

This is a brief but comprehensive statement of the syphilis problem as revealed by Selective Service examinations. The significant figure of roughly 4.8 per cent syphilis in the military age group emerges. The slight reduction found in the 14,000,000 men examined as compared with the first 2,000,000 is encouraging. The increased number of clinics and the follow-up on contacts are obviously beginning to produce results.

E.G.B.

Meningococcal Carrier Studies

J. J. PHAIR, E. A. SCHOENBACH and C. M. ROOT (American Journal of Public Health, 34:148, Feb. 1944) report a study of meningococcus carriers in a medical service unit at an Army camp. No cases of meningitis had occurred in this unit, although the disease was prevalent in the camp and surrounding area. In one group in which cultures were made at frequent intervals for ten weeks, 91 per cent of the men were found to harbor a type of specific meningococcus at some time. The average carrier percentage in all groups studied was 41 per cent. More than 50 per cent of the men with positive cultures were found to harbor two or more specific strains of meningococcus. A marked reduction in the carrier rate was obtained by the administration of sulfadiazine or sulfamerazine. After a single dose of 2 gm. sulfadiazine, the carrier rate is much reduced and may even fall to zero. This low carrier rate persists for a considerable time, much beyond the period necessary for complete elimination of the drug. In the series reported sulfamerazine was no more effective than sulfadiazine in the treatment of carriers. The use of sulfadiazine in small doses the authors consider to be feasible as a method of control of meningococcus carriers in selected groups or in "certain situations of forced overcrowding." But the widespread use of this method in the general population is not recommended; such use might lead to "wholesale drug sensitization" or to the development of sulfonamide resistant strains of meningococci.

COMMENT.

This study is indicative of results which may be obtained in a controlled group by application of a preventive in the face of a threatened outbreak of meningitis or of an unusual prevalence of carriers, It is not applicable to the general population.

E.G.B.

Immunity in Human Subjects Artificially Infected with Influenza Virus, Type B

THOMAS FRANCIS, JR. and associates at the University of Michigan (American Journal of Public Health, 34:317, Apr. 1944) report experiments in which human subjects inhaled type B influenza

virus. The illness resulting closely resembled the milder outbreaks of the natural disease. The severity of symptoms varied, but temperatures above 102° F. were common. Constitutional, rather than respiratory, symptoms predominated. The disease was of short duration and no complications developed in any case. Determination of antibody titer in the sera of these subjects showed a very definite increase after this infection. Four months later, 24 of this same group were again exposed to infection with influenza virus, Type B, by the same method. Fever and other symptoms resulted from this infection, although the illness was milder in this group than in controls not previously infected. There was no close correlation between the antibody titer of the serum and the degree of fever induced by the infection, but there was a tendency for high antibody titer to be associated with low temperatures. The studies suggest that if prophylactic procedures are to be effective against influenza, they should be repeated at intervals of less than four months.

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COMMENT.

This research is still strictly experimental and the practical application has not yet emerged.

E.G.B.

The Treatment of Silicosis by Aluminum Powder

D. W. CROMBIE and associates at the Queen Alexandra Sanatorium, London, Canada (Canadian Medical Association Journal, 50:318, April 1944) report a study of the effects of aluminum powder on silicosis of miners. The cases selected for treatment were all men working in the gold mines and exposed to silica dust, who showed uncomplicated silicosis on xray and clinical examination with measurable "pulmonary disability." Treatment consisted in the inhalation of fine aluminum powder fresh ground from small aluminum pellets in a specially constructed mill. Treatments were given daily, usually just before or just after a shift. At first the aluminum dust was inhaled only five minutes at a treatment; this period was gradually increased to thirty minutes. The treatments were continued for almost a year in some cases, approximately 300 treatments, but most of the

men received about 200 treatments. Of the 34 men treated, 19, or 55 per cent, have shown definite clinical improvement, lessening or disappearance of shortness of breath, cough, pain in the chest and fatigue; some noted gain in weight and a reduction in the incidence of colds. In the remaining 15 cases, the condition remained stationary; none grew worse, although constantly exposed to silica dust. Respiratory function tests showed improvement in 12 cases, no change in 22 cases. In 9 men with silicosis kept under observation without treatment, 66 per cent showed progression of their disease with continued exposure to silica dust. On the basis of experimental work by

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other investigators and the results in this series of cases, inhalation of aluminum dust cannot be considered as a cure for silicosis, so far as restoring fibrotic lung tissue to normal is concerned, but it ameliorates symptoms in a considerable percentage of cases, and is apparently of value in preventing the development and progression of silicosis.

COMMENT.

This is a highly restricted and complicated experimental work requiring a highly organized medical service. This is a far cry from the days when it was popular to be fearful of food cooked in aluminum utensils.

E.G.B.

OPHTHALMOLOGY

Treatment of Ocular Infections With Penicillin

G. T. WILLOUGHBY CASHELL (British Medical Journal, 1:420, March 25, 1944) reports the use of penicillin in the treatment of 20 cases of blepharitis, 10 cases of acute conjunctivitis, 10 cases of corneal ulcer, and 14 cases of perforating injury and 3 cases of dacrocystitis. Penicillin was used for local application in the form of drops or ointment, the treatment with drops proving most effective; the solution used contained 500 Oxford units of penicillin per cc. Compared with the dosages used in other branches of medicine and surgery, the amount of penicillin employed in eye infections is small. In blepharitis, one drop of the solution is instilled in each eye three times a day. In acute conjunctivitis one drop is instilled in the affected eye every four hours until the eye is "clean", then one drop three times a day. In perforating injuries one drop is instilled in the injured eye every half hour for the first twenty-four hours, and, when possible, the anterior chamber of the eye is irrigated with the solution. Treatment is continued in all cases for seven days after the first negative swab is obtained, or after clinical evidence of cure. The highest daily dosage of penicillin employed in any of the cases reported was 1,800 units, in a case of

blepharitis; in most cases the daily dosage was less than 500 units; in 2 cases of perforating injury, 600 units. In all cases the improvement under pencillin treatment was rapid, whether the infection was due Staphylococcus hemolytic aureus, streptococcus, pneumococcus, or gonococcus. In one case of corneal ulcer due to the bacillus of Petit, there was a good response to treatment, although this bacillis is not affected by penicillin in vitro. In the cases of perforating injury of the eye, panophthalmitis was avoided in all but one instance in which the injury had occurred three days before treatment was instituted.

COMMENT.

The restrictions imposed upon the profession by government control has made it impossible for the average oculist to use penicillin except in exceptional cases. Since it has been released for general use the experiences of our more fortunate British brethren will be most helpful.

R.L.

Ocular Rosacea and Ariboflavinosis

W. M. FISH (American Journal of Ophthalmology, 27:354, April 1944) reports a study of corneal vascularization with the slit-lamp in 45 cases of dermatologic rosacea, all but 2 of which also showed ocular rosacea. The B₂ type of

vascularization, i.e., the bilateral symmetrical type found in ariboflavinosis, was found in only one of these 45 cases; and this patient was one of the 2 who showed no ocular rosacea. Routine treatment for ocular rosacea consisted of mydriatics. if indicated, antiseptic lotions or eye drops. dark glasses, sulfo-calamine lotion for the skin, and in selected cases, peritomy, tonsillectomy or meibomian massage through the lids (in cases of meibomian infection). A 10 per cent albucid (sulfacetamide) solution was used for local application as eye drops in some of these cases with good results. Only one of the 45 patients in this series (observed in Oxford, England) had a diet apparently deficient in B2. Most of the patients were farmers and had more milk, butter, eggs and vegetables than the average citizen in England. In 10 cases treated with B2 alone, there was no response to the treatment and they were subsequently given routine treatment as outlined above. The addition of B2 to the routine treatment in other cases had no effect on the rate of healing. These findings are not in agreement with those reported from Cleveland, Ohio, by Conners, Eckhardt and Johnson, who found evidence of riboflavin deficiency in most of their patients with ocular rosacea, and reported improvement under treatment with riboflavin. As this involved general improvement in the diet with increased intake of the entire vitamin B complex, the author suggests that these factors were more important than riboflavin alone. In the series reported neither the slit-lamp findings, nor the results of vitamin B therapy, indicated that ocular rosacea is due to riboflavin deficiency.

COMMENT.

Rosacea keratitis is a problem to diagnose and difficult to treat. Von Hippel claims to be able to diagnose the condition from microsections of the new vascularized tissue removed from the cornea. No other eye pathologist has agreed with this in print and several of our outstanding Americans have dissented in personal discussions. The general results of riboflavin and other vitamins in this country agree with those of the author of this article. Without a definite pathological picture to differentiate chronic irritative types of keratitis, we are quite at sea. All sorts of treatment have their advocates but the remedy for one case fails when tried for another. Now that penicillin is with us, perhaps that will appear in the reports of cured cases.

Retinal Detachment at an . Army Hospital

E. V. VEIRS (Southern Medical Journal, 37:224, April 1944) reports 21 cases of detachment of the retina at an Army general hospital. The average age of these patients was 27.8 years, while in civilian practice the average age of patients with detachment of the retina is 40 years. In this series only 5 patients, or 23.8 per cent, were myopic, while as a rule myopia is associated with retinal detachment in about 70 per cent of cases. Operation was done in 10 cases, using an Army diathermy machine not especially constructed for this work, and a single point electrode. In 4 cases trauma was an etiological factor; in one case the retinal detachment was secondary to a malignant melanoma, and in this case there was a tear at the apex of the detachment; enucleation of the eye was finally necessary, although a diathermy operation was first done to establish the diagnosis. Operation was not done in 11 cases; in 7 of these there was inflammatory disease of the eye-choroiditis, retinitis or uveitis; prognosis in such cases is poor. In 3 cases the detachment of the retina was complete. In the operated cases, the fundus was examined with the ophthalmoscope before the conjunctiva was sutured; this procedure was found to be of definite value. If the retina is found to be flattened, the prognosis is better than if it remains elevated. If it is found that the subretinal fluid is not sufficiently drained, or the hole or tear not adequately sealed, further "barrages" can be placed before suturing the coniunctiva.

COMMENT.

No case of retinal detachment should be operated or allowed to pass from observation without determining the presence or absence of a neoplasm. Before operating, a retro-illumination should be done. In difficult cases, the fluid should be drained off and the fundus carefully studied by retro-illumination, transillumination and with the ophthalmoscope. It was formerly supposed that a neoplasm would precipitate a crisis in a relatively short time. It is possible for a neoplasm to remain quiescent for years before making imperative demands. The operation for detachment has accomplished much as the results were zero before Gonin introduced the operation now in use modified to suit the case or the ideas of the operator. At best, it is palliative and does not attack the cause, which is not known.

Many oculists are very pessimistic about the operation, but anyone who has treated these cases in the pre-Gonin era knows how thankful we should be for the conservative estimate of 25 per cent of successes.

R.L.

A New Aid in Removal of Foreign Bodies of the Cornea

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D. F. GILLETTE (Archives of Ophthalmology, 31:129, Feb. 1944) has found that in industry, most of the foreign bodies have an iron content, which quickly produces a rust stain of the cornea. The foreign bodies are also often hot, causing a burn of the cornea. The rust stain and burn become firmly attached to the surrounding tissue and are difficult to remove. In such cases the author has found that the application of 1 per cent silver nitrate to the region of the foreign body facilitates its removal, and also the removal of the rust stain and/or burn. Recently he has employed the sharpened end of a round toothpick for removal of foreign bodies from the eye; the toothpicks are kept in a steam sterilizer and the point is soft and is finer than a cotton wound applicator. For the removal of the stain, the point of a cystotome may have to be used, especially if the patient is seen some time after the injury. This method, he has found, causes a minimum amount of trauma and saves time, while also conserving visual function.

COMMENT.

Every foreign body is dirty unless proven otherwise. The local use of silver nitrate or carbolic acid will not only facilitate recognition and removal of the foreign body but will lessen danger of infection afterwards.

R.L.

Less Evident Causes of Lowered Acuity in Senility

R. I. LLOYD (American Journal of Ophthalmology, 27:232, March 1944) notes that the use of the slit lamp has revealed changes in the postcorneal endothelium in older patients which affect the vision. Pigmented dots may be found on the posterior corneal surface but may cause little diminution in vision unless they are very numerous or reach an advanced stage. The advanced stage is that described by Vogt as cornea guttata and considered to be an early stage of Fuch's dystrophy. A description of the pathological findings

in an eye showing typical Fuch's epithelial dystrophy, sent to the author by Dr. F. H. Verhoeff of Boston, shows that the epithelial dystrophy is caused by changes in the corneal endothelium, which are analogous to senile changes in the pigmented epithelium. The author states that early stages of Fuch's dystrophy may be overlooked and advises that careful study be made of cases showing the "stubborn and troublesome symptoms" of chronic catarrhal conjunctivitis, as such study will often show evidence of early stages of cornea guttata or keratitis sicca. Slit lamp study is part of the routine examination before operation for cataract, and if this shows cornea guttata, the intraocular tension should be determined. If there is the slightest rise in tension, a trephining should be done with complete iridectomy before cataract extraction is attempted. Postoperatively treatment to overcome any rise of tension should be employed "on the slightest provocation." Examination of the fundus with the ophthalmoscope shows other changes that may be associated with loss of visual acuity in older persons. One of these conditions is characterized by high reflexes in the retinal area, tortuous retinal capillaries, and a "meaty" appearance of the choroid. In some of these cases a hole in the macula may develop after slight trauma or spontaneously. Another senile change revealed by the ophthalmoscope is thea ppearance of small pigmented spots in the macula; later a definite scotoma with corresponding loss of vision often develops. The author is of the opinion that the pigmented spots are not the cause of the loss of vision, but are a by-product of some pathological condition in the pigment layer and in the rods and cones, which causes the visual defect. Perimetry is employed to demonstrate and localize lesions behind the globe. With the use of the perimeter, the author has found that hemianopias due to vascular "accidents" or lesions behind the thalamus may be present without the patient's having been seriously ill. The slightest vascular "incident" in an elderly patient is an indication for study of the visual fields. Lesions of the branches of the posterior cerebral artery are the cause of the most common hemianopias.

Medical BOOK NEWS

Edited by ALFRED E. SHIPLEY, M.D., Dr. P.H.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, 16, N. Y.



Gasparo Aselli 1581~1626

The appendix considers toxic hazards. Convenient as this work is in collecting useful and specific information, the reviewer does not feel that any well equipped ophthalmologist will find much that is new in its pages, at least as refers to methods of examinations.

JOHN N. EVANS

Classical Quotations

• I suddenly beheld a great number of cords as it were, exceedingly thin and beautifully white, scattered over the whole of the mesentery and the intestine, and starting from almost innumerable beginnings. . . . Having laid hold of a very sharp sealpel, I pricked one of these cords and indeed one of the largest of them. I had hardly touched it, when I saw a white liquid like milk or cream forthwith gush out.

GASPARO ASELLI

De lactibus, Milan, 1627.

Eye Program for Industry

Industrial Ophthalmology. By Hedwig S. Kuhn, M.D. St. Louis, The C. V. Mosby Company, [c. 1944]. 294 pages, illustrated. 8vo. Cloth, \$6.50.

THIS work on Industrial Ophthalmology is obviously very timely and will, without a doubt, be a factor in establishing better methods of "job analysis" in the great industrial post war period.

The work reviews visual testing in industry, discusses the methods of visual testing and the correction of visual defects for the contemplated work. The various visual skills are outlined and special chapters are devoted to industrial eye injuries and eye protection. The relation of employer and employee are discussed from many viewpoints, and a special chapter is devoted to recent developments in industrial eye problems.

A Neuropsychiatric Manual

Synopsis of Neuropsychiatry. By Lowel S. Selling, M. D. St. Louis, The C. V. Mosby Company, [c. 1944]. 500 pages. 12 mo. (Cloth, \$5.00.

R. SELLING, Director, Psychopathic Clinic, Recorder's Court, Detroit, Michigan, has made available a remarkable pocket-size synopsis of the general field of neurology and psychiatry with reference to the latter's specialized interests. This pithy condensation of the main facts of the important reaction types encountered in neuropsychiatry should prove useful to the medical student (but hardly for the specialist) for review purposes. Important references to current and classical literature on various topics are apparently purposely omitted. Significant mention is made of military and medico-legal aspects of clinical entities. Differential diagnoses, child psychiatry, and psychoanalytic theory and practice are briefed.

A succeeding edition will no doubt make certain additions and corrections. For example (page 26) the eleventh cranial nerve is stated to serve the throat along with the twelfth nerve. No mention is made that the former is distributed to the sternomastoid and trapezius muscles. Also one fails to note (page 38-39) any reference to herniation of intravertebral discs as a cause of "sciatica".

The book serves the useful purpose of a quick guide for finding the outstanding facts making for diagnostic formulations and treatment.

FREDERICK L. PATRY

MEDICAL TIMES, SEPTEMBER, 1944

Fungus Diseases

Swartz, M.D. New York, Grune & Stratton, [c. 1943]. 179 pages, illustrated. 8vo. Cloth, \$4.50.

THIS useful volume on medical mycology is illustrated with fine photographs of clinical and histological material, and with line drawings of mycological terms which enable an observer to depict accurately microscopic elements of a preparation containing a fungus. Classification of pathogenic fungi, the tissues they attack with the diseases they produce; clinical aspects and treatment of infection with yeast-like and other kinds of fungi are discussed in various sections of the book.

A glossary of terms commonly used in mycology with a chart depicting the clinical picture and mycological findings in infections due to different species of fungi

concludes the work.

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It is highly recommended to the medical student and to the practitioner who is seeking a clear, concise, and simple account of the clinical appearance of common fungi infections as well as of the microscopic morphology of their causative agents.

ARTHUR W. GRACE

Volume 2 of Grant's Atlas

An Atlas of Anatomy. In Two Volumes. By J. C. Roileau Grant, M.B. Volume II. Vertebrae and Vertebrae Column, Thoras, Head and Neck. Baltimore, The Williams and Wilkins Company, [c. 1943]. 390 pages, illustrated. 4to. Cloth, \$5.00.

This is the second volume of an Atlas of Anatomy, the first of which was presented in 1943. This volume follows through with the vertebrae and vertebral column, the thorax, and the head and neck, these being the regions not presented in Volume I. The same methods in making the drawings and illustrations are used as in Volume I, which was noted in the previous review.

All drawings have excellent and most definite legends with observations for the student to make placed at the bottom of

each page.

Volume II of Dr. J. C. Boileau Grant's "Atlas" represents the completion of a tremendous amount of work and study, and should be commended for its exceptional accuracy, and when used with "A Method of Anatomy" by the same author, a better understanding of anatomy can be more readily acquired.

HERBERT T. WIKLE

Facial Bone Plastics

Traumatic Injuries of Facial Bones. An Atlas of Treatment. By John B. Erich, D.D.S., M.D. and Louie T. Austin, D.D.S. In collaboration with Bureau of Medicine and Surgery, U. S. Navy. Philadelphia, W. B. Saunders Company, [c. 1944]. 600 pages, illustrated. 8vo. Cloth, \$6.00.

THE Surgeon General of the Navy, Rear Admiral Ross T. McIntire, endorses this book in his "Foreword."

The authors present many actual and severe cases with details of the mechanics of treatment. These cases are profusely illustrated with comments on individual problems by two authorities on plastic and maxillo-facial surgery.

The authors stress the necessary cooperation of dental specialists with the

general and plastic surgeon.

The book is really a "must" for men doing this kind of surgery, especially at this war period, and would be a very valuable asset to the less experienced doctor who might be called upon to care for such cases.

G. FRANK SAMMIS

Health Prevention

Health and Hygiene. A Comprehensive Study of Disease Prevention and Health Promotion. By Lloyd Ackerman, Lancaster, Pa., The Jaques Cattell Press, [c. 1943]. 895 pages, illustrated. 8vo. Cloth, \$5.00.

THE value of this book depends largely upon the use to which it is put.

If it is intended for general instruction in institutions of higher learning, then it is too comprehensive. It is better adapted for use by students who have chosen the study of health and hygiene as an elective course.

For the public at-large it is useful as a reference book. The man or woman who plans to serve the community in the health preservation field will find the volume a good one to enhance his knowledge.

ALFRED E. SHIPLEY

Chemistry in the War

The Chemical Front. By Williams Haynes. New Yott, Alfred A. Knopf, [c. 1943]. 264 pages, illustrated. 8vo. Cloth, \$3.00.

THIS book presents dramatically the spectacular part chemistry is playing in World War II. Mr. Haynes is a brilliant writer and he tells us in non-technical language about the chemical processes man has learned to harness. The chapters devoted to the sulfa drugs, synthetic quinine, and the blood plasma are among the many triumphs of chemical

research he writes about. His statement that strychnine is derived from the deadly nightshade is, however, erroneous, as strychnine is the active principle of nux vomica of the logania family. But aside from this error the story about the plastics, smokeless powder, the incendiary bomb, nitroguanidine which makes smokeless powder flashless, synthetic rubber, and other very interesting chemical discoveries upon which the successful outcome of this war depends, make absorbing reading.

FREDERICK SCHROEDER

Industrial Poisons

Toxicology and Hygiene of Industrial Solvents. Edited by K. B. Lehmann and F. Flury. Translated by Eleanor King and Henry F. Smyth, Jr. Berlin, Germany, Julius Springer, [c. 1938]. Baltimore, The Williams & Wilkins Company, [c. 1943]. 378 pages. 8vo. Cloth, \$5.00.

HE solvents, if toxic, are known to constitute a health hazard. In practically all branches of manufacture, chemicals, especially the solvents are used. This volume is most comprehensive in its scope and its translation in English is detailed. The results of experimental and toxicological investigations are cited. They include studies of the hydrocarbons, of the benzine and benzol series, the important chlorinated hydrocarbons, alcohols, etc. Around these studies are grouped discussions of chemistry and technology, injuries to the skin, dangers to health and health protection. Although experimental and toxicological investigations form the nucleus of the book, the contents are predominantly of a medical nature. volume is highly recommended to all physicians, especially those interested in Industrial medicine and occupational diseases.

IRVING GRAY

Davison's Pediatrics

The Compleat Pediatrician. By Wilburt C. Davison. 4th Edition. Durham, N. C., Duke University Press, [c. 1943]. 256 pages. 8vo. Cloth, \$3.75.

IN his preface to the fourth edition Dr. Davison states that the Compleat Pediatrician with its emphasis on symptoms and signs as clues, rather than on descriptions, was compiled in the hope that it would be of value from the practical point of view. He has succeeded in this to a remarkable degree, and his book has become an indispensable part of the physician's equipment without which it would be difficult to practice modern pediatrics. The author has, therefore,

made a most important and valuable contribution to the cause of progress in clinical medicine and has elevated the standards of medical care by providing a book which so accurately gives in practical form the information which the physician requires in his daily practice. The revisions made comprise the change of 7000 lines and the correlation of the newer advances in pediatrics, and thus make this edition in a class by itself. It is an invaluable and indispensable aid to the practitioner of medicine.

JOSEPH C. REGAN

Christopher's Minor Surgery Revised

Minor Surgery. By Frederick Christopher, M.D. 5th Edition. Philadelphia, W. B. Saunders Company, [c. 1944]. 1006 pages, illustrated. 8vo. Cloth, \$10.00.

In this edition the entire work has been carefully revised and many sections have been entirely rewritten, as for instance, the section on wound healing and wound treatment. The incorporation of the local use of sulfonamides, the administration of penicillin, as well as the employment of plaster casts, brings this section up to the present minute. The modern treatment of burns, along with the use of plasma, amino acids, vitamin deficiency, electrolyte requirements, and other recognized treatment of shock are discussed: the postoperative pulmonary complications, as well as prophylaxis and treatment of postoperative thrombosis and embolism (including the use of Heparin and Dicumarol) and the postoperative urinary complications (including the use of 1/6 molar sodium R lactate to increase the pH of urine during the sulfonamide administration.)

Many other modern treatments, such as ligating the femoral vein in thrombophlebitis, treatment of pilonidal sinuses, the hanging cast in fractures of the humerus, and many other modern innovations in treatment are discussed.

The important feature of all previous editions of this book has been the concise and excellent discussion of the subject of diagnosis, and this still remains as one of the main reasons why the book has enjoyed such universal popularity, and we are sure, this it will continue to have. Every practitioner of medicine, regardless of his specialty, should have this book accessible to him at all times.

HERBERT T. WIKLE

Army Laboratory Methods

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Laboratory Methods of the United States Army.
Fifth Edition. Edited by Brig. Gen. James Stevens
Simmons, U.S.A. and Col. Cleon J. Gentzkow,
M.C.. U.S.A. Philadelphia, Lea & Febiger, [c.
1944]. 823 pages, illustrated. 8vo. Cloth, \$7.50.

HE preparation of the 5th edition of I this laboratory manual was stimulated by wartime need. It is noteworthy that the original edition was written during World War No. 1 by officers on duty in the Office of the Surgeon General of the Army. The book is arranged in eleven different parts, ranging from clinical pathology to statistical medicine, each part being prepared by a specialist in the field. The parts dealing with mycology, rickettsial diseases and protozoology should be of interest to the "stay-at-home" pathologist, and of even greater importance to pathologists in service. The sections on clinical pathology, chemistry, and bacteriology, although necessarily condensed, are unusually replete with information likely to be useful in every-day laboratory practice. The numerous references given at the end of each chapter provide source material for anyone interested in obtaining more detailed information. Mention should be made of the numerous world maps included in the illustrations depicting the distribution of various diseases with which members of the armed forces may be exposed.

It is seldom that a one-volume text has appeared containing so much accurate and up-to-the-minute information in the field of laboratory medicine. Both to those in the services for whom the edition was primarily prepared, and to those in civilian practice the book should serve as

a valuable text.

THEODORE J. CURPHEY

Dermatologic Handbook

Essentials of Dermatology. By Norman Tobias, M.D. 2nd Edition. Philadelphia, J. B. Lippincott Co. [c. 1944]. 497 pages, illustrated. 12mo. Cloth,

HIS is the second edition of a very I fine handbook on dermatology, with many devisions and additions bringing it up to date.

The classification of diseases is based on clinical, pathologic and etiologic concepts that are accepted in the light of today's knowledge. The descriptions of diseases are ideal briefs. Differential diagnosis is adequately outlined for a book of this type. Pertinent and accepted therapy only is included. Considerably more than 100 photographs aid in visualization. chapter on Dermatologic Therapeutics sets forth certain fundamental principles and axioms that are worthy of the attention of every practitioner.

Inside the front cover one finds a thumbnail sketch of the sulphonamide preparations used in Dermatology, together with indications for their use, and precautions to be observed. Inside the back cover is a list of normal blood chemistry values ranging through the alphabet from albumin to vitamins.

The book is well written, good in format, and worthy of consideration by the general physician and medical student.

E. ALMORE GAUVAIN

Heroic Legend

The Johns Hopkins Hospital and the Johns Hopkins University School of Medicine. A Chronicle. Vol. I. Early Years. 1867-1893. By Alan M. Chesney, M.D. Baltimore, The Johns Hopkins Press, [c. 1943]. 318 pages, illustrated. 8vo. Clock \$2.00 Press, [c. Cloth, \$3.00.

HIS chronicle appears at an appro-I priate time, for the Medical School recently observed its fiftieth anniversary (the Hospital's fiftieth anniversary was in 1939). It is the work of the school's dean and associate professor of medicine, who has been an intimate actor in the drama which the chronicle records and therefore more trustworthy than any future narrator could be.

The Olympian atmosphere that invested school and hospital and created a cherished myth in the annals of medicine is ably reproduced in this chronicle.

ARTHUR C. JACOBSON

A Popular Maternity Guide

Espectantly Yours. A Book for Espectant Mothers and Prospective Fathers. By Mario A. Castallo, M.D. and Addrey Walz. New York, The Mac-millan Company, [c. 1943]. 110 pages, illustrated. 12mo. Board, \$1.75.

GOOD little book for the prospective mother. There never can be too many of them. It is too bad that the old specter of "16,000 women lost yearly" is still doing business where as the actual number is now only half that and in Philadelphia, too!

CHARLES A. GORDON

BOOKS RECEIVED for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review noted will be promptly published shortly after acknowledgment of receipt has been made in this column.

Synopsis of Obstetrics. By Jennings C. Litzenberg, M.D. Second Edition St. Louis, The C. V. Mosby Company, [c. 1943]. 405, illustrated. 12mo. Cloth, \$5.00.

Sexual Anomalies and Perversions. Physical and Psychological Development and Treatment. A Summary of the Works of the late Professor Magnus Hirschfield, M.D. New York, Emerson Books, Inc., [c. 1944]. 630 pages, 8vo. Cloth, \$4.95.

Tropical Nursing, A Handbook for Nurses and Others Going Abroad, By A. L. Gregg, M.D. Second Edition. New York, Philosophical Library, Inc., [c. 1944]. 185 pages, illustrated, 16mo. Cloth, \$3.00.

Ellimination Diets and the Patients Allergies. A Handbook of Allergy. By Albert H. Rowe, M.D. Second Edition, revised. Philadelphia, Lea & Febiger, [c. 1944]. 256 pages. 8vo. Cloth, \$3.50.

Synopsis of Nopropsychiatry. By Lowell S. Selling, M. D. St. Louis, The C. V. Mosby Company, [c. 1944]. 500 pages. 12 mo. Cloth, \$5.00.

Synopsis of Diseases of the Hears and Arteries. By George R. Herrmann, M.D. Third Edition. St. Louis, The C. V. Mosby Company, [c. 1944]. 516 pages, illustrated. 12 mo. Cloth, \$5.00. Industrial Ophthalmology. By Hedwig S. Kuhn, M.D. St. Louis, The C. V. Mosby Company, [c. 1944]. 294 pages, illustrated. 8vo. Cloth, \$6.50.

Something New About Health and Healing. By P. F. Van Den Daele. Boston, The Christopher Publishing House, [c. 1944]. 288 pages. 12 mo. Cloth, \$3.00.

Stop Worrying and Got Well. By Edward Podolsky, M.D. New York, Bernard Ackerman, Inc., [c. 1944]. 124 pages. 8vo. Cloth, \$2.00.

Health Education on the Industrial Front, The 1942 Health Education Conference of the New York Academy of Medicine. New York, Columbia University Press. [c. 1943]. 63 pages. 8vo. Cloth, \$1.25.

The Wounded Get Back. By Albert Q. Maisel. New York, Harcourt, Brace and Company, [c. 1944]. 230 pages. 8vo. Cloth, \$2.50.

Virus Diseases in Man Animal and Plant. -2ng Ag tav Seiffert. Translated by Marion Lee Taylor. New York, Philosophical Library, Inc., [c. 1944]. 332 pages, illustrated. 8vo. Cloth, \$5.00.

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